SEQUENCE LISTING

<110> Verdaguer, Bertrand
de Kochko, Alexandre
Beachy, Roger N
Fauquet, Claude

<120> CASSAVA VEIN MOSAIC VIRUS PROMOTERS AND
USES THEREOF

<130> TSRI 0504.1

<140> US 09/202,838
<141> 2000-01-21

<150> PCT/US97/10376
<151> 1997-06-20

<150> US 60/020,129
<151> 1996-06-20

<160> 37

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 392
<212> DNA
<213> Cassava vein mosaic virus

<400> 1
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atgtacagat acaagatcct atactgccag aatacgaaga agaatacgta gaaattgaaa 120
aagaagaacc aggcgaagaa aagaatcttg aagacgtaag cactgacgac aacaatgaaa 180
agaagaagat aaggtcggtg attgtgaaag agacatagag gacacatgta aggtggaaaa 240
tgtaagggcg gaaagtaacc ttatcacaaa ggaatcttat cccccactac ttatcctttt 300
atatttttcc gtgtcatttt tgcccttgag ttttcctata taaggaacca agttcggcat 360
ttgtgaaaac aagaaaaaat ttggtgtaag ct 392

<210> 2
<211> 524
<212> DNA
<213> Cassava vein mosaic virus

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tatggaagta ttatgtgagc tcagcaagaa gcagatcaat atgcggcaca tatgcaacct 120
atgttcaaaa atgaagaatg tacagataca agatcctata ctgccagaat acgaagaaga 180
atacgtagaa attgaaaaag aagaaccagg cgaagaaaag aatcttgaag acgtaagcac 240
tgacgacaac aatgaaaaga agaagataag gtcggtgatt gtgaaagaga catagaggac 300
acatgtaagg tggaaaatgt aagggcggaa agtaacctta tcacaaagga atcttatccc 360
ccactactta tccttttata tttttccgtg tcatttttgc ccttgagttt tcctatataa 420
ggaaccaagt tcggcatttg tgaaaacaag aaaaaatttg gtgtaagcta ttttctttga 480
agtactgagg atacaagttc agagaaattt gtaagtttga attc 524

<210> 3
<211> 524
<212> DNA
<213> Cassava vein mosaic virus

<400> 3
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tatggaagta ttatgtgagc tcagcaagaa gcagatcaat atgcggcaca tatgcaacct 120
atgttcaaaa atgaagaatg tacagataca agatcctata ctgccagaat acgaagaaga 180
atacgtagaa attgaaaaag aagaaccagg cgaagaaaag aatcttgaag acgtaagcac 240
tgacgacaac aatgaaaaga agaagataag gtcggtgatt gtgaaagaga catagaggac 300
acatgtaagg tggaaaatgt aagggcggaa agtaacctta tcacaaagga atcttatccc 360
ccactactta tccttttata tttttccgtg tcatttttgc ccttgagttt tcctatataa 420
ggaaccaagt tcggcatttg tgaaaacaag aaaaaatttg gtgtaagcta ttttctttga 480
agtactgagg atacaagttc agagaaattt gtaagtttga attc 524

<210> 4
<211> 411
<212> DNA
<213> Cassava vein mosaic virus

<400> 4
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aagaagaata cgtagaaatt gaaaaagaag aaccaggcga agaaaagaat cttgaagacg 120
taagcactga cgacaacaat gaaaagaaga agataaggtc ggtgattgtg aaagagacat 180
agaggacaca tgtaaggtgg aaaatgtaag ggcggaaagt aaccttatca caaaggaatc 240
ttatccccca ctacttatcc ttttatattt ttccgtgtca tttttgccct tgagttttcc 300
tatataagga accaagttcg gcatttgtga aaacaagaaa aaatttggtg taagctattt 360
tctttgaagt actgaggata caagttcaga gaaatttgta agtttgaatt c 411

<210> 5
<211> 305
<212> DNA
<213> Cassava vein mosaic virus

<400> 5
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tgtgaaagag acatagagga cacatgtaag gtggaaaatg taagggcgga aagtaacctt 120
atcacaaagg aatcttatcc cccactactt atccttttat atttttccgt gtcatttttg 180
cccttgagtt ttcctatata aggaaccaag ttcggcattt gtgaaaacaa gaaaaaattt 240
ggtgtaagct attttctttg aagtactgag gatacaagtt cagagaaatt tgtaagtttg 300
aattc 305

<210> 6
<211> 261
<212> DNA
<213> Cassava vein mosaic virus

<400> 6
ggatccggtc ggtgattgtg aaagagacat agaggacaca tgtaaggtgg aaaatgtaag 60
ggcggaaagt aaccttatca caaaggaatc ttatccccca ctacttatcc ttttatattt 120
ttccgtgtca tttttgccct tgagttttcc tatataagga accaagttcg gcatttgtga 180
aaacaagaaa aaatttggtg taagctattt tctttgaagt actgaggata caagttcaga 240
gaaatttgta agtttgaatt c 261

<210> 7
<211> 193
<212> DNA
<213> Cassava vein mosaic virus

<400> 7
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catttttgcc cttgagtttt cctatataag gaaccaagtt cggcatttgt gaaaacaaga 120
aaaaatttgg tgtaagctat tttctttgaa gtactgagga tacaagttca gagaaatttg 180
taagtttgaa ttc 193

<210> 8
<211> 143
<212> DNA
<213> Cassava vein mosaic virus

<400> 8
ggatccgtgt catttttgcc cttgagtttt cctatataag gaaccaagtt cggcatttgt 60
gaaaacaaga aaaaatttgg tgtaagctat tttctttgaa gtactgagga tacaagttca 120
gagaaatttg taagtttgaa ttc 143

<210> 9
<211> 420
<212> DNA
<213> Cassava vein mosaic virus

<400> 9
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actatggaag tattatgtga gctcagcaag aagcagatca atatgcggca catatggatc 120
ctgaagacgt aagcactgac gacaacaatg aaaagaagaa gataaggtcg gtgattgtga 180
aagagacata gaggacacat gtaaggtgga aaatgtaagg gcggaaagta accttatcac 240
aaaggaatct tatcccccac tacttatcct tttatatttt tccgtgtcat ttttgccctt 300
gagttttcct atataaggaa ccaagttcgg catttgtgaa aacaagaaaa aatttggtgt 360
aagctatttt ctttgaagta ctgaggatac aagttcagag aaatttgtaa gtttgaattc 420

<210> 10
<211> 482
<212> DNA
<213> Cassava vein mosaic virus

<400> 10
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actatggaag tattatgtga gctcagcaag aagcagatca atatgcggca catatgcaac 120
ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa aggatccggt cggtgattgt 240
gaaagagaca tagaggacac atgtaaggtg gaaaatgtaa gggcggaaag taaccttatc 300
acaaaggaat cttatccccc actacttatc cttttatatt tttccgtgtc atttttgccc 360
ttgagttttc ctatataagg aaccaagttc ggcatttgtg aaaacaagaa aaaatttggt 420
gtaagctatt ttctttgaag tactgaggat acaagttcag agaaatttgt aagtttgaat 480
tc 482

<210> 11
<211> 458
<212> DNA
<213> Cassava vein mosaic virus

<400> 11
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actatggaag tattatgtga gctcagcaag aagcagatca atatgcggca catatgcaac 120
ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaatcttga agacgtaagc 240
actgacgaca acaatgaaaa gaagaggatc cttatcacaa aggaatctta tcccccacta 300
cttatccttt tatatttttc cgtgtcattt ttgcccttga gttttcctat ataaggaacc 360
aagttcggca tttgtgaaaa caagaaaaaa tttggtgtaa gctattttct ttgaagtact 420
gaggatacaa gttcagagaa atttgtaagt ttgaattc 458

<210> 12
<211> 468
<212> DNA
<213> Cassava vein mosaic virus

<400> 12
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ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaatcttga agacgtaagc 240
actgacgaca acaatgaaaa gaagaagata aggtcggatc cttatcacaa aggaatctta 300

tcccccacta cttatccttt tatatttttc cgtgtcattt ttgcccttga gttttcctat 360
ataaggaacc aagttcggca tttgtgaaaa caagaaaaaa tttggtgtaa gctattttct 420
ttgaagtact gaggatacaa gttcagagaa atttgtaagt ttgaattc 468

<210> 13
<211> 491
<212> DNA
<213> Cassava vein mosaic virus

<400> 13
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actatggaag tattatgtga gctcagcaag aagcagatca atatgcggca catatgcaac 120
ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaatcttga agacgtaagc 240
actgacgaca acaatgaaaa gaagaagata aggtcggtga ttgtgaaaga gacatagagg 300
atccttatca caaaggaatc ttatccccca ctacttatcc ttttatattt ttccgtgtca 360
tttttgccct tgagttttcc tatataagga accaagttcg gcatttgtga aaacaagaaa 420
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agtttgaatt c 491

<210> 14
<211> 408
<212> DNA
<213> Cassava vein mosaic virus

<400> 14
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actatggaag tattatgtga gctcagcaag aagcagatca atatgcggca catatgcaac 120
ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaatcttga agacgtaagc 240
actgacgaca acaatgaaaa gaagaggatc cgtgtcattt ttgcccttga gttttcctat 300
ataaggaacc aagttcggca tttgtgaaaa caagaaaaaa tttggtgtaa gctattttct 360
ttgaagtact gaggatacaa gttcagagaa atttgtaagt ttgaattc 408

<210> 15
<211> 418
<212> DNA
<213> Cassava vein mosaic virus

<400> 15
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actatggaag tattatgtga gctcagcaag aagcagatca atatgcggca catatgcaac 120
ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaatcttga agacgtaagc 240
actgacgaca acaatgaaaa gaagaagata aggtcggatc cgtgtcattt ttgcccttga 300
gttttcctat ataaggaacc aagttcggca tttgtgaaaa caagaaaaaa tttggtgtaa 360
gctattttct ttgaagtact gaggatacaa gttcagagaa atttgtaagt ttgaattc 418

<210> 16
<211> 441
<212> DNA
<213> Cassava vein mosaic virus

<400> 16
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ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaatcttga agacgtaagc 240
actgacgaca acaatgaaaa gaagaagata aggtcggtga ttgtgaaaga gacatagagg 300
atccgtgtca tttttgccct tgagttttcc tatataagga accaagttcg gcatttgtga 360
aaacaagaaa aaatttggtg taagctattt tctttgaagt actgaggata caagttcaga 420
gaaatttgta agtttgaatt c 441

<210> 17
<211> 476
<212> DNA
<213> Cassava vein mosaic virus

<400> 17
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actatggaag tattatgtga gctcagcaag aagcagatca atatgcggca catatgcaac 120
ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaatcttga agacgtaagc 240
actgacgaca acaatgaaaa gaagaagata aggtcggtga ttgtgaaaga gacatagagg 300
acacatgtaa ggtggaaaat gtaagggcgg aaaggatccg tgtcattttt gcccttgagt 360
tttcctatat aaggaaccaa gttcggcatt tgtgaaaaca agaaaaaatt tggtgtaagc 420
tattttcttt gaagtactga ggatacaagt tcagagaaat ttgtaagttt gaattc 476

<210> 18
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 18
accggtacca gaaggtaatt atccaagatg t 31

<210> 19
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 19
cggaattcaa acttacaaat ttctctgaag 30

<210> 20
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 20
cgcgatccag actgaatgcc cacaggccgt cgag 34

<210> 21
<211> 17
<212> DNA
<213> Cassava vein mosaic virus

<400> 21
agacgtaagc actgacg 17

<210> 22
<211> 22
<212> DNA
<213> Cassava vein mosaic virus

<400> 22
cttatcacaa aggaatctta tc 22

<210> 23
<211> 22
<212> DNA
<213> Cassava vein mosaic virus

<400> 23
cttatcacaa aggaatctta tc 22

<210> 24
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 24
gctctagacc agaaggtaat tatccaag 28

<210> 25
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 25
tatggatcct atgttcaaaa atgaag 26

<210> 26
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 26
aaaggatcct gaagacgtaa gcactg 26

<210> 27
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<400> 27
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<210> 28
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<223> Synthesized

<400> 28
aaaggatcct tatcacaaag gaatc 25

<210> 29
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<400> 34
accggatcct cttcttttca ttgttc 26

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<211> 24
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<400> 35
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<210> 36
<211> 23
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<400> 36
ataggatcca tatgtgccgc ata 23

<210> 37
<211> 13
<212> DNA
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<223> Synthesized

<400> 37
tgaaaacaag aaa 13